

II. AMENDMENTS TO THE CLAIMS

The following listing of claims replaces all prior versions, and listings, of claims in the application:

1. (Currently Amended) A computer implemented method for processing a data set, comprising the steps of:

providing a data set having a first length;

formatting a key to match the first length;

setting pre-determined bits of the formatted key to zero to yield a masked key; and

forming an exclusive-OR result of the data set with the masked key to yield an encrypted data set,

wherein the first length may be any length.

2. (Original) The method of claim 1, further comprising the step of replacing the data set with the encrypted data set.

3. (Original) The method of claim 1, wherein the first length comprises four high order bits and four low order bits.

4. (Original) The method of claim 3, wherein the forming step yields an encrypted data set in which only the four low order bits are encrypted.

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5. (Original) The method of claim 3, wherein the setting step comprises setting the four high order bits to zero.
6. (Original) The method of claim 5, wherein the step of setting the four high order bits to zero comprises forming an AND result of the truncated key with binary 0000 1111.
7. (Original) The method of claim 1, further comprising decrypting the encrypted data set by forming an inverse exclusive-OR result of the encrypted data set with masked key.
8. (Original) The method of claim 1, wherein the forming step yields an encrypted data set that is entirely within the ASCII printable range.
9. (Original) The method of claim 1, wherein the step of formatting a key comprises:
- providing a second data set having a second length;
 - replicating the second data set as necessary until its length is equal to or greater than the first length; and
 - truncating the second data set as necessary until its length equals the first length.
10. (Original) A method for processing a data set, comprising the steps of:
- providing a data set having a first length that includes at least four low order bits;
 - providing a key having a second length;
 - formatting the key to equal the first length; and

performing a logical operation on the four low order bits of the data set with a corresponding four low order bits of the formatted key.

11. (Original) The method of claim 10, further comprising the step of replacing the four low order bits of the data set with results of the logical operation.

12. (Original) The method of claim 10, wherein the first length further includes four high order bits.

13. (Original) The method of claim 12, further comprising the step of setting the four high order bits of the key to zero, prior to the forming step.

14. (Original) The method of claim 13, wherein the setting step comprises forming an AND result of the formatted key with binary 0000 1111.

15. (Original) The method of claim 10, further comprising the step of performing an inverse logical operation on four low order bits of the encrypted data set with the four low order bits of the formatted key to yield a decrypted data set.

16. (Original) The method of claim 10, whercin the step of providing a key comprises:

providing a second data set having a second length;

formatting the key to the first length.

17. (Original) The method of claim 10, wherein the forming step yields an encrypted data set that is entirely within the ASCII printable range.

18. (Original) A system for processing a data set having a first length, comprising:

- a system for formatting a key to the first length;
- a system for setting pre-determined bits of the key to zero to yield a masked key; and
- a system for forming an exclusive-OR result of the data set with the masked key to yield an encrypted data set.

19. (Original) The system of claim 18, wherein the system for setting pre-determined bits of the key to zero includes a system for forming an AND result of the formatted key with binary 0000 1111.

20. (Original) The system of claim 18, wherein the system for formatting comprises:

- a system for providing a second data set;
- a system for replicating the second data set as necessary until its length is equal to or greater than the first length; and
- a system truncating the second data set as necessary until its length equals the first length.

21. (Original) The system of claim 18, wherein the first length comprises four bits high order bits and four low order bits.

22. (Original) The system of claim 21, wherein the pre-determined bits set to zero are the four high order bits.

23. (Original) The system of claim 21, wherein the system for forming yields an encrypted data set wherein only the four low order bits are encrypted.

24. (Original) The system of claim 21, further comprising a system for replacing the four low order bits of the data set with the determined exclusive-OR result.

25. (Original) The system of claim 18, further comprising a system for decrypting the encrypted data set by forming an inverse exclusive-OR result of the encrypted data set with the masked key.

26. (Original) The system of claim 18, wherein the encrypted data set is entirely within the ASCII printable range.

27. (Original) A system for processing a data set, comprising:

- a data set having a first length that includes at least four low order bits;
- a key having a second length;
- a system for formatting the key to equal the first length; and
- a system for forming an exclusive-OR result of the four low order bits of the data set with a corresponding four low order bits of the formatted key to yield an encrypted data set.

28. (Original) The system of claim 27, wherein the encrypted data set is entirely within the ASCII printable range.

29. (Original) A program product stored on a recordable media for processing a data set having a first length, which when executed, comprises:

- a system for formatting a key to the first length;
- a system for setting pre-determined bits of the key to zero to yield a masked key; and
- a system for forming an exclusive-OR result of the data set with the masked key to yield an encrypted data set.

30. (Original) The program product of claim 29, wherein the system for setting pre-determined bits of the key to zero includes a system for forming an AND result of the formatted key with binary 0000 1111.

31. (Original) The program product of claim 29, wherein the system for formatting comprises:

- a system for providing a second data set;
- a system for replicating the second data set as necessary until its length is equal to or greater than the first length; and
- a system for truncating the second data set as necessary until its length equals the first length.

32. (Original) The program product of claim 29, wherein the first length comprises four bits high order bits and four low order bits.

33. (Original) The program product of claim 32, wherein the pre-determined bits set to zero are the four high order bits.

34. (Original) The program product of claim 32, wherein the system for forming yields an encrypted data set wherein only the four low order bits are encrypted.

35. (Original) The program product of claim 29, further comprising a system for replacing the four low order bits of the data set with the determined exclusive-OR result.

36. (Original) The program product of claim 29, further comprising a system for decrypting the encrypted data set by forming an inverse exclusive-OR result of the encrypted data set with the masked key.

37. (Original) The program product of claim 29, wherein the encrypted data set is within the ASCII printable range.

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